EMULEX MicroVMS TS11 SOFTWARE DRIVER (TSDRIVER)

INSTALLATION GUIDE

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TABLE OF CONTENTS

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1.1 INTRODUCTION

This manual is a guide to installation of the MicroVMS TS11 software driver, TSDRIVER, on Digital Equipment Corporation (DEC) MicroVAX I and II computers. The document contains two main sections:

- **General Description.** This section contains an overview of TSDRIVER.

- **Installation.** This section presents installation instructions for TSDRIVER.

There are no operating instructions, because TSDRIVER requires no user interaction once installed.

1.2 PRODUCT OVERVIEW

As written by DEC, the MicroVMS operating system does not support TS11-type devices. TSDRIVER is a software driver that provides TS11 support under MicroVMS 4.n. The TS11-type device at the standard TSSR and vector address is designated as MSA0 by MicroVMS. Alternate TSSR and vector addresses can also be selected; see the appropriate tape coupler technical manual for details.

1.3 DISTRIBUTION MEDIA

The following table lists TSDRIVER distribution media.

Emulex P/N	Description
VD9960703	5.25-inch floppy diskette
VD9962003	TK50 tape cartridge

1.4 COMPATIBILITY AND REQUIREMENTS

1.4.1 HARDWARE

TSDRIVER is compatible with DEC MicroVAX I and II computers. It supports DEC TSV05 and TQK25 subsystems and TS11 emulations, including Emulex TC02, TC03, and TC05 tape couplers.

1.4.2 SOFTWARE

TSDRIVER is compatible with the DEC MicroVMS operating system, version 4.n. The Program Development version of MicroVMS is necessary for full TS11 support, because the DEC MTACP (Magnetic Tape Ancillary Control Process) is required; however, with the baseline MicroVMS system, the TS11 can still be used for backup and restore operations, as explained in subsection 2.3.

1.5 RELATED DOCUMENTATION

The following Emulex documents may be ordered from the following address:

        Emulex Corporation
        3545 Harbor Blvd.
        Costa Mesa, CA   92626
        (714) 662-5600 TWX 910-595-2521

Title: TC02/FS (TS11 Compatible) Tape Coupler Technical
                Manual
Publication No.: TC0251002

Title: TC03 (TS11 Compatible) Tape Coupler Technical
                Manual
Publication No.: TC0351001

Title: TC05 (TS11 Compatible) Tape Coupler Technical
                Manual
Publication No.: TC0551001

The following DEC publication is available from:

        Digital Equipment Corporation
        P.O. Box CS2008
        Nashua, New Hampshire   03061

Title: MicroVMS User's Manual
Publication No.: AA-Z209B-TE

2.1 OVERVIEW

This section defines conventions and abbreviations used in this document, and explains how to install TSDRIVER under MicroVMS.

2.2 CONVENTIONS AND ABBREVIATIONS

Operator input appears in **boldface** type, in order to distinguish it from operating system messages and prompts. The symbol **<return>** signifies the carriage return key.

2.3 INSTALLATION PROCEDURE

The following installation procedure assumes that SPTREQ is set to 896, so that the command as shown, **SET SPTREQ 1024**, adds 128 to the current value. This step is necessary only for the MicroVAX I, which does not implement the Scatter-Gather function; TSDRIVER uses 128 entries in the system page table to perform this function, so SPTREQ must be increased by 128. This step is omitted for the MicroVAX II.

NOTE

For the MicroVAX I, SPTREQ must be increased by 128 for **each** tape drive that TSDRIVER serves.

1. Login to the system manager account.

NOTE

Before invoking VMSINSTAL, you **must** install the System Programming Option (SYSP). To ensure that SYSP has been installed, check the directory for the Magnetic Tape Ancillary Control Process (MTAAACP.EXE) and the system symbol table (SYS.STB) files. Use the following procedures (one at a time) to make this check:

$ **DIR SYS$SYSTEM:SYS.STB<return>**
$ **DIR SYS$SYSTEM:MTAAACP.EXE<return>**

2. Insert the media and invoke the VMSINSTAL procedure. For
   the floppy diskette, enter the following:

   ```
   $ @SYS‡UPDATE:VMSINSTAL * DUA1:<return>
   ```

   For the TK50 cartridge, enter the following:

   ```
   $ @SYS‡UPDATE:VMSINSTAL * MUA0:<return>
   ```

3. Invoke SYSGEN and alter the value of SPTREQ (MicroVAX I only):

   ```
   $ RUN SYS$SYSTEM:SYSGEN<return>
   SYSGEN> USE CURRENT<return>
   SYSGEN> SET SPTREQ 1024<return>
   SYSGEN> WRITE CURRENT<return>
   SYSGEN> EXIT<return>
   ```

After completing these steps, shut down the system and rebootstrap.

The default file SYLOGIN.COM equates the INIT command to
INIT/NOHIGHWATER. Magtapes do not support this option; therefore, an
error occurs when you try to initialize the tape. To overcome this
problem, you can either alter the SYLOGIN.COM file (not recommended) or
use the INIT/HIGHWATER command to override the default:

```
$ INIT/HIGHWATER MSA0: TEST<return>
```

Failure to use the /HIGHWATER qualifier may cause INIT to fail with the
message shown in the following sample dialog:

```
$ INIT MSA0: TEST<return>
% INIT-F-ILLOPT, qualifier(s) not appropriate to this device
$
```

2.4 ERROR LOGGING

On the MicroVAX I, ANALYZE/ERROR_LOG can be used to interpret the TS11
subsystem errors that are logged. On the MicroVAX II, however, the tape
error log module has been excluded, so the user can only obtain a hex
dump of the TS11 registers. To obtain this dump, use the following
command:

```
$ ANALYZE/ERROR_LOG/REGISTER_DUMP/INCLUDE=MS<return>
```

2.5 MAKING A STANDALONE BACKUP DISKETTE

The following procedure can be used for making a new version of
standalone backup on RX50 floppy diskettes with TS11 support:
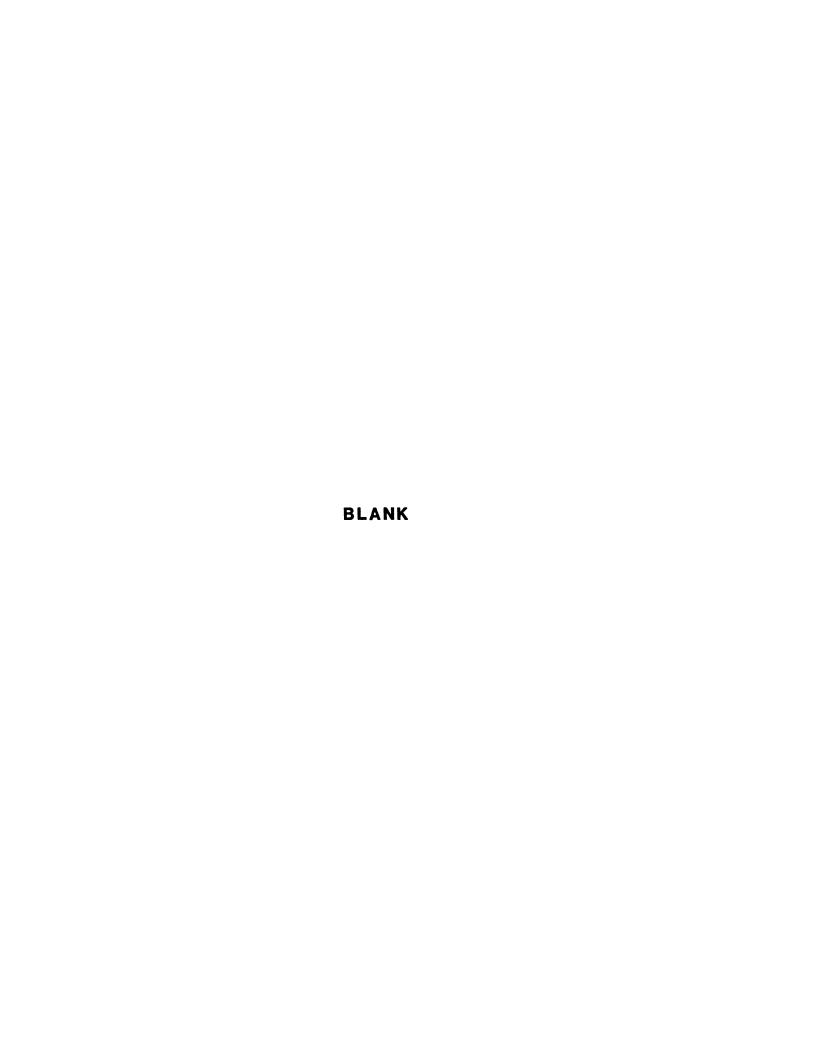
1. Login on the system account.

2. Invoke the editor and make a new, modified version of the
   standalone backup build command file, using the following
   command sequence. The modified file should be called by a
   different name (in this example, TS11_STABACKIT vs. STABACKIT)
   in order to differentiate the two files. Also, the standard
   file needs to remain unmodified for future patches.

   ```
   $ SET DEF SYS$UPDATE:
   $ EDIT/OUT=TS11_STABACKIT.COM SYS$UPDATE:STABACKIT.COM<return>
   ```

   The following four steps are for MicroVAX I only:

   ```
   *F "SRPCOUNT"<return>
   *I<return>
   SET SPTREQ 1024<return>
   ^Z
   ```

   The following steps are for both MicroVAX I and II:

   ```
   *F "TSDRIVER"<return>
   *S "'IFNOTUVAX'" <return>
   *EXIT<return>
   ```

3. Invoke the new version of the command file, which will produce
   two floppies with the new standalone backup. You must have two
   scratch RX50 diskettes available:

   ```
   $ @SYS$UPDATE:TS11_STABACKIT.COM<return>
   ```

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